

Square Root Equations

Date _____ Period _____

Solve each equation. Remember to check for extraneous solutions.

1) $3 = \sqrt{b - 1}$

2) $2 = \sqrt{\frac{x}{2}}$

3) $\sqrt{-8 - 2a} = 0$

4) $\sqrt{x + 4} = 0$

5) $5 = \sqrt{r - 3}$

6) $\sqrt{2m - 6} = \sqrt{3m - 14}$

7) $\sqrt{8k} = k$

8) $\sqrt{9 - b} = \sqrt{1 - 9b}$

9) $\sqrt{3 - 2x} = \sqrt{1 - 3x}$

10) $\sqrt{3k - 11} = \sqrt{5 - k}$

$$11) (20 - r)^{\frac{1}{2}} = r$$

$$12) (6b)^{\frac{1}{2}} = (8 - 2b)^{\frac{1}{2}}$$

$$13) \sqrt{56 - r} = r$$

$$14) \sqrt{-10 + 7p} = p$$

$$15) (18 - n)^{\frac{1}{2}} = \left(\frac{n}{8}\right)^{\frac{1}{2}}$$

$$16) \sqrt{2v - 7} = v - 3$$

$$17) -3 = (37 - 3n)^{\frac{1}{2}} - n$$

$$18) (-3 - 4x)^{\frac{1}{2}} - (-2 - 2x)^{\frac{1}{2}} = 1$$

$$19) x = 5 + (3x - 11)^{\frac{1}{2}}$$

$$20) 2 = \sqrt{3b - 2} - \sqrt{10 - b}$$

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Solve each equation. Remember to check for extraneous solutions.

1) $3 = \sqrt{b - 1}$
 $\{10\}$

2) $2 = \sqrt{\frac{x}{2}}$
 $\{8\}$

3) $\sqrt{-8 - 2a} = 0$
 $\{-4\}$

4) $\sqrt{x + 4} = 0$
 $\{-4\}$

5) $5 = \sqrt{r - 3}$
 $\{28\}$

6) $\sqrt{2m - 6} = \sqrt{3m - 14}$
 $\{8\}$

7) $\sqrt{8k} = k$
 $\{0, 8\}$

8) $\sqrt{9 - b} = \sqrt{1 - 9b}$
 $\{-1\}$

9) $\sqrt{3 - 2x} = \sqrt{1 - 3x}$
 $\{-2\}$

10) $\sqrt{3k - 11} = \sqrt{5 - k}$
 $\{4\}$

$$11) (20 - r)^{\frac{1}{2}} = r$$

$$\{4\}$$

$$12) (6b)^{\frac{1}{2}} = (8 - 2b)^{\frac{1}{2}}$$

$$\{1\}$$

$$13) \sqrt{56 - r} = r$$

$$\{7\}$$

$$14) \sqrt{-10 + 7p} = p$$

$$\{2, 5\}$$

$$15) (18 - n)^{\frac{1}{2}} = \left(\frac{n}{8}\right)^{\frac{1}{2}}$$

$$\{16\}$$

$$16) \sqrt{2v - 7} = v - 3$$

$$\{4\}$$

$$17) -3 = (37 - 3n)^{\frac{1}{2}} - n$$

$$\{7\}$$

$$18) (-3 - 4x)^{\frac{1}{2}} - (-2 - 2x)^{\frac{1}{2}} = 1$$

$$\{-3, -1\}$$

$$19) x = 5 + (3x - 11)^{\frac{1}{2}}$$

$$\{9\}$$

$$20) 2 = \sqrt{3b - 2} - \sqrt{10 - b}$$

$$\{6\}$$